In the name of god

MASLD, Low-Dose Aspirin effects on inflammation Markers

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Introduction

- **MASLD** (metabolic-associated steatotic liver disease) formerly **NAFLD**
- an umbrella term for a range of diseases
- An evolution from a relatively unknown disease to the most common cause of chronic liver disease worldwide
- a high frequency of metabolic comorbidities

MASLD

- non-alcoholic steatohepatitis (NASH)

- non-alcoholic fatty liver (NAFL)

Pathophysiology of MASLD

- development of MASLD as a complex process which is not completely understood
- a typical example of ectopic accumulation of lipids

Development of NASH is a two-step process:

- fat deposition in the liver
- cellular and molecular changes

Risk factors

- Genetic associations with MASLD
- type 2 diabetes mellitus (T2DM)
- Cardiovascular disease
- smoking
- Dyslipidemia
- closely related to metabolic syndrome and obesity
- The relationship between NAFLD and smoking is controversial

Symptoms and signs

- majority of the patients with NAFLD do not experience any symptoms
- Fatigue
- right upper quadrant discomfort
- Hepatomegaly or Splenomegaly
- Acanthosis nigricans
- Lipomatosis
- Very often a diagnosis like MASLD is discovered due to abnormal liver function tests such as ALT and AST

Management

- Conservative treatment - lifestyle modifications and weight loss
- Medication: there is no specific drug treatment for MASLD
- Weight loss – conservative and surgical
- Liver transplantation

Low-Dose Aspirin Reduces Liver Fat, Inflammation Markers

- double-blind randomized trial
- decreases in liver fat and improved markers of hepatic inflammation and fibrosis

Reduction in inflammation

- anti-inflammatory in the liver
- antitumor effects in the liver
- reduction in the prevalence of hepatic steatosis and fibrosis progression in patients with MASLD
- a decrease in the incidence of hepatocellular carcinoma among patients with viral hepatitis

Study Details

- Sample: 80 adults with MASLD
- randomly assigned to 2 groups:
  Test: receive aspirin 81 mg once daily for 6 months.
  Control: receive placebo once daily for 6 months
- absolute change in hepatic fat fraction (HFF) from baseline:
  primary end point: The relative change for aspirin vs placebo was 10.3%
  secondary end point: The relative change for aspirin vs placebo was -59.2%

- A relative reduction in HFF of at least 30% among 16 of the 40 patients who received aspirin
- Significantly greater reductions in liver transaminase levels and liver stiffness in aspirin group
- Significant Weight Gain in Placebo Group

Exclusion criteria

- Patients with baseline cirrhosis or other liver disease
- heavy drinkers
- Aspirin intake within 6 months
- antiplatelet or anticoagulant agents usage
- patients with severe renal or cardiovascular disease
- Pregnancy
- Breastfeeding
- thrombocytopenia
- bariatric surgery within the past 2years

Conclusion

What about effects of other NSAIDs on MASLD?

References

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